

Quality Assurance of Sputum Microscopy in DOTS Programmes

Guidelines for Pacific Island Countries



WORLD HEALTH ORGANIZATION
Regional Office for the Western Pacific



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Regional Office for the Western Pacific
Stop TB Special Project

Authorship

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Preface

Tuberculosis control by Directly Observed Treatment, Short-course (DOTS) has been introduced in many countries in the Western Pacific Region. DOTS is the proven, cost-effective strategy recommended by World Health Organization for countries with limited resources.

Laboratory diagnosis of active tuberculosis cases by sputum smear microscopy is a critical element of DOTS — to the extent that the quality of the tuberculosis laboratory service has a major influence on the success of the tuberculosis control programme. It follows that tuberculosis control will be most effective (and efficient) in countries that have a network of laboratories providing a reliable service within the framework of the National Tuberculosis Programme. Improvement of laboratory services throughout the Western Pacific Region is now a priority of the Stop Tuberculosis initiative.

Regardless of its purpose, a reliable laboratory service is one that is cost-efficient and provides results that are consistently accurate. These demands can be met only through commitment to quality assurance. A key component of quality assurance for tuberculosis microscopy services is External Quality Assessment – the process by which the performance of a routine diagnostic service is monitored by a more competent laboratory such as a reference laboratory.

A committee of representatives from various global authoritative bodies has recently prepared a comprehensive guide on External Quality Assessment for DOTS laboratories: **“External Quality Assessment for AFB Smear Microscopy.”** The document has been reviewed and further developed by World Health Organization, Western Pacific Region to include additional information on quality control. As a result, **“Quality Assurance of Sputum Microscopy in DOTS Programmes — Guidelines for Pacific Island Countries”** was designed to serve as a guide to strengthening quality assurance of sputum smear microscopy. It should be noted that emphasis was given to those countries with a high burden of tuberculosis.

Pacific Island countries do not have high numbers of tuberculosis cases. However, delivery of tuberculosis services is potentially compromised by factors such as geographic isolation, relatively small but widely spread populations, limitations in laboratory facilities, the number of trained personnel and low workloads. Quality assurance of sputum microscopy is therefore of utmost importance to tuberculosis control programmes in the Pacific. Recognising this fact, World Health Organization, Western Pacific Region, has revised the Regional Guidelines to draw particular

attention to Pacific Island settings and an Annex has been prepared specifically to assist national programme managers and laboratory personnel in meeting the challenges of the Pacific environment. The Annex contains recommendations by laboratory consultants with first-hand knowledge of the prevailing conditions in several of the island countries in the Western Pacific Region.

It is hoped that these quality assurance guidelines will be adopted and implemented in Pacific Island countries of the Western Pacific Region as a means of ensuring the high quality of the National Tuberculosis Programme.

Abbreviations

AFB	acid-fast bacillus (or bacilli)
CDC	Centers for Disease Control and Prevention
DOTS	Directly Observed Treatment, Short-course
EQA	external quality assessment
IUATLD	International Union Against Tuberculosis and Lung Disease
LQAS	Lot Quality Assurance System
NRL	National Reference Laboratory
NTP	National Tuberculosis Programme
OIF	oil immersion fields
PICs	Pacific island countries
QA	quality assurance
QC	quality control
QE	quantification error
SPR	slide positivity rate
TB	tuberculosis
WHO	World Health Organization
WPR	WHO Western Pacific Region
ZN	Ziehl-Neelsen stain

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